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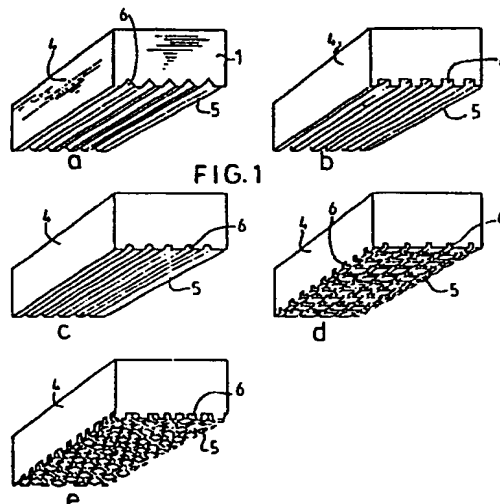
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(54) Plant pot for use in substrate culture.

(57) A plant pot (1), for use in substrate culture, made of an anorganic material such as mineral wool, for cultivating plants, the pot having the form of a parallelepiped with a recess opening in the upper surface (2) for accommodating a seedling (3), whereby the four sides adjoining the upper surface are covered with a layer (4) of material which is impermeable to liquid and light, wherein the underside (5) of the parallelepiped furthest from the top surface has alternately raised and recessed portions (6) so promoting undisturbed transfer to and growth of the roots into the substrate during hydroculture, after the pot has been placed on the substrate, so shortening the total residence time for culture for several weeks.



## Plant pot for use in substrate culture

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The invention relates to a plant pot, for use in substrate culture, made of an anorganic material such as mineral wool, for cultivating plants, the pot having the form of a parallelepiped with a recess opening in the upper surface for accomodating a seedling, whereby the four sides adjoining the upper surface are covered with a layer of material which is impermeable to liquid and light.

This kind of plant pot is used, as a rule, for further development of a plant after germination, after which the plant pot with the developed plant is placed in its entirety on a substrate such as mineral wool for further cultivation by means of hydroculture. In the intervening phase it is usual to place the plant pot loose on a stone ground, which has brought with it the disadvantage that the root development was not optimal. In order to counter that disadvantage, plant pots of this kind are placed on Perlite grains which are spread on the ground beforehand. However, the use of Perlite grains has preponderant disadvantages, namely from the point of view of dust formation, while the relatively sharp grains can damage the hands and knees of the nursery workers, thus demanding protective measures.

The invention aims to provide a plant pot in which an optimal root development of the seedling can take place without the above mentioned Perlite grains or suchlike being necessary.

The plant pot according to the invention is distinguished in that the underside of the parallelepiped furthest from the top surface has alternately raised and recessed portions.

Because the mineral wool plant pot comes to stand on the raised portions, an adequate ventilation is ensured to prevent rotting of the roots. Moreover, root growth is possible in the recessed portions, which promotes undisturbed transfer to and growth of the roots into the substrate during hydroculture, after the pot has been placed on the substrate, so shortening the total residence time for culture for several weeks.

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A plant pot of this kind offers, moreover, the advantage that Perlite grains are no longer necessary, which considerably simplifies the growing technique, and saves energy costs relating to the machine for spreading the Perlite grains.

According to the invention there are various different embodiments possible. Thus the originally flat underside can be provided with incisions, such that these incisions open in at least one of the sides of the parallelepiped.

Alternatively it is possible to make the underside wavy.

The invention will now be further explained with reference to the description with figures, below, of a number of embodiment examples.

In the drawings:

Fig. 11, b, c, d and e show five different possible embodiments of the plant pot according to the invention, seen from the underside of the pot.

Fig. 2 shows a perspective view from above of plant pots situated next to one another on a flat ground.

The plant pot 1, in figure 1, has the form of a parallelepiped and can have a rectangular or quadrangular shape, seen from above. The top surface, see figure 2, is drilled into in such a way that there is a centrale opening, which has a definite depth and which serves for the accommodation of a seedling 3. The upright sides adjoining the upper surface are covered with a layer 4, of waterproof material, which layer can consist of a foil of plastic material which is wound as a strip around the four upright sides.

According to the invention, the underside is made with recessed and raised portions. These can be made with help of a milling cutter or suchlike, in such a way that grooves 6 result. By situating five milling cutters next to one another, when the pot is displaced over the cutters five longitudinal grooves 6 are cut simultaneously. The cross sections of these grooves can be triangular, see figure 1a, rectangular, see figure 1b, half round, see figure 1c, or arbitrarily any other shape.

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Figure 1d shows that the grooves can be cut in two directions resulting in a grid pattern. The grooves can hereby run parallel to the upright sides or, alternatively, at an angle to them, in order to increase the size of the air supply openings in the sides - see figure 1e.

It will be clearly apparent that by placing the pots 1 on a flat ground 7, the channels 6 on the underside of the pots ensure an adequate supply of air to the underside, so that root rot is prevented and a healthy development of the root system is permitted.

The invention is not confined to the above mentioned embodiments.

## WHAT IS CLAIMED IS:

1. Plant pot, for use in substrate culture, of an anorganic material, such a mineral wool, for growing plants, the pot having the form of a parallelepiped, with a recess opening in the upper surface for accomodation of a seedling, whereby the four sides adjoining the upper surface are covered with a layer of material which is impermeable to water and light, characterized in that the underside furthest from the upper surface of the parallelepiped has raised and recessed portions.
2. Plant pot according to claim 1, characterized in that the originally flat underside has incisions, such that the incisions open in at least one of the four upright sides of the parallelepiped.
3. Plant pot according to claim 2, characterized in that the incisions run parallel to one another.
4. Plant pot according to claims 2 or 3, characterized in that the incisions cross one another.
5. Plant pot according to claim 1, characterized in that the underside is wavy.
6. Procedure for manufacturing a plant pot, according to claims 1 and 2, whereby the plant pot is cut as a parallelepiped from a sheet of inorganic material, and then is drilled into on one side in order to form a central cavity, characterized in that the pot is led with the side which lies opposite to the side which was drilled into along a milling apparatus, in order to form at least one incision.

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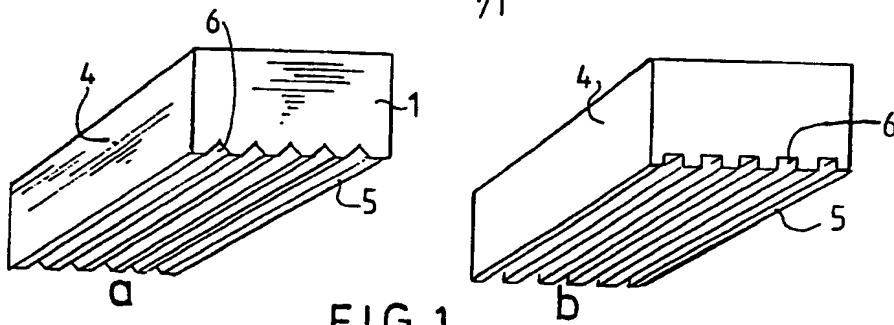


FIG. 1

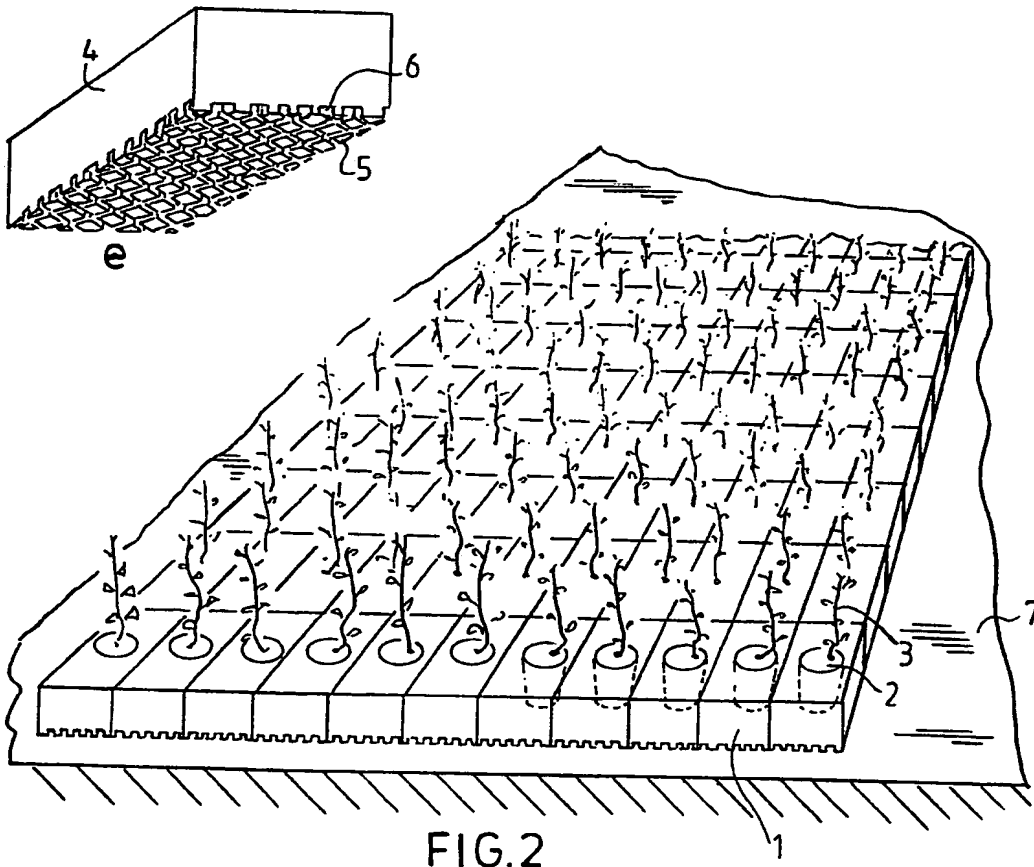
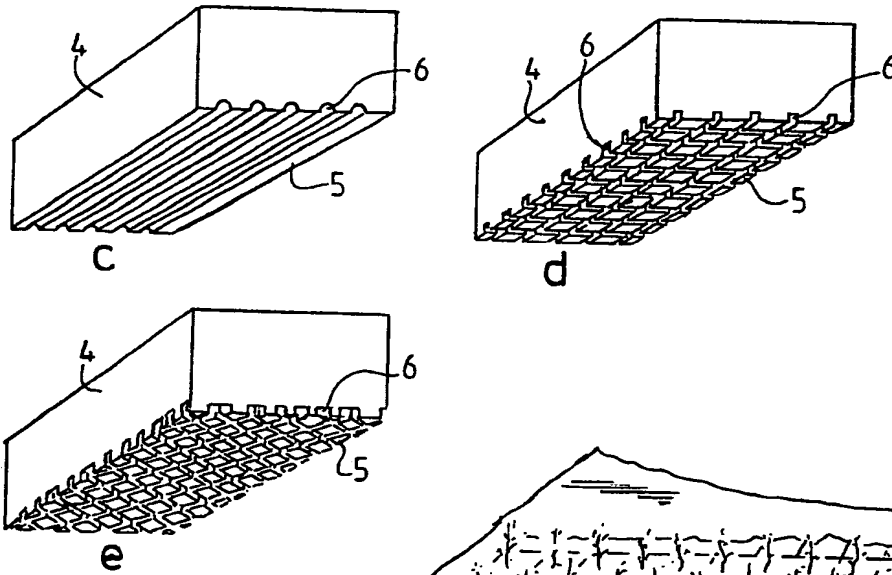


FIG. 2

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# EUROPEAN SEARCH REPORT

0176134  
Application Number

EP 85 20 1441

| DOCUMENTS CONSIDERED TO BE RELEVANT   |   |  |  |
|---|---|--|--|
| Category  | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim  | CLASSIFICATION OF THE APPLICATION (Int. Cl. 4) |
| X   | GB-A-2 106 764 (ROCKWOOL INTERNATIONAL)<br>* Whole document *                 | 1-4  | A 01 G 9/10<br>A 01 G 31/02                    |
| X   | US-A-4 058 931 (KOSAN)<br>* Column 2, lines 27-60; figures 1-3 *              | 1-4  |  |
| A   | GB-A- 737 660 (KENDALL)<br>* Page 2, lines 22-40; claim 1; figure 1 *         | 5  |  |
|   |   |  | TECHNICAL FIELDS SEARCHED (Int. Cl. 4)         |
|   |   |  | A 01 G   |
| The present search report has been drawn up for all claims  |   |  |  |
| Place of search<br>THE HAGUE  |   | Date of completion of the search<br>09-12-1985   | Examiner<br>HERYGERS J. J.                     |
| CATEGORY OF CITED DOCUMENTS   |   |  |  |
| X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |   | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |  |